Abstract: *Qasgiq to Classroom: From Cultural Knowledge to STEM Careers*

Qasgiq to Classroom: From Cultural Knowledge to STEM Careers (Q to C) will prepare Alaska Native high school students for careers in the fields of Science, Technology, Engineering and Mathematics (STEM) by offering high level math and science courses in high school in a community-based setting that builds on research indicating successful strategies and content for educating Native youth.

A *qasgiq* (Central Yup'ik) is a community house – the place where young people work with their elders, learn lifelong skills, and gain an understanding of the nature of the universe. It is also the place where the whole community celebrates life's important events and the community itself. In the past, it was through the *qasgiq* that young people matured into contributing adults. In *Qasgiq to Classroom*, we will use the *qasgiq* model to improve the school environment by putting into practice years of research on Native education strategies.

The requesting organization, Cook Inlet Tribal Council, Inc. (CITC), is a tribal nonprofit organization that provides educational services for the Alaska Native and American Indian youth of Anchorage, Alaska. It is an Indian Organization as defined in 34 CFR 263.20 and is the sole applicant with partnerships with the Anchorage School District and the University of Alaska-Anchorage's Alaska Native Science and Engineering Program. The project will improve the achievement of Native American students in math and science as indicated through standardized tests, GPAs, graduation rates. As a demonstration project, Q to C will also test the effectiveness of a unique project design that is team-based, speaks to the whole student (mind, body, and spirit), increases parental involvement, links students directly with university STEM programs,

and uses Native cultural information as an integral part of the math and science curriculum developed and taught.

The proposed *Qasgiq to Classroom* program will be an enhancement to the DOE-funded *Partners for Success (PFS)* program, an Alaska Native dropout prevention program for at-risk and underserved Native students, and will be based on lessons learned in another CITC project, *Indigenous Knowledge in Math and Science Project (IKMS)*, which began the process of preparing Native students to successfully transition to post-secondary education in STEM fields by increasing their competency and skills in high-level math and science. The project will take place at one high school in the Anchorage School District.

Q to C will require four years to complete. Year One: curriculum's refinement, and Physics curriculum research and development. Teach math, chemistry, and biology. Involve students in ANSEP and cultural activities (these activities occur each of the four years). Year Two: Teach revised math, chemistry, and biology and pilot test physics curriculum in one high school. Year Three: Continue teaching math, chemistry and biology; revise physics curriculum based on pilot test then teach revised curricula. Write curriculum in a format that is replicable to other districts. Year Four: full implementation, dissemination of curriculum, final evaluation.